

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Rec'd PCT/PTO 14 JAN 2005



Applicant's or agent's file reference BERTELLONI/0451/EST	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/AT 03/00440	International filing date (day/month/year) 16.07.2003	Priority date (day/month/year) 16.07.2002
International Patent Classification (IPC) or both national classification and IPC B62J1/04		
Applicant BERTELLONI, Pietro		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 6 sheets.

- This report contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application

Date of submission of the demand 16.02.2004	Date of completion of this report
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 03/00440

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

2-12 as originally filed
1 received on 06.08.2004 with letter of 06.08.2004

Claims, Numbers

1-18 received on 15.10.2004 with letter of 15.10.2004

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 03/00440

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	-
Inventive step (IS)	Yes: Claims	1-18
	No: Claims	-
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	-

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IT 03/00440

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document:

D1: EP-A-0 091 016

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):
A seat for a bicycle, comprising a relatively soft saddle support (1) to bear the rider and a supporting structure (5) by means of which said support is connected to the seat-carrying upright (6) of the bicycle, whereby between said supporting structure (5) and said upright (6) there is provided a oscillatable pin (4) and means suitable for preventing the oscillation of said pin (cf. page 4; l. 19-21)) being provided between said pin and said supporting structure.

The subject-matter of claim 1 differs from this known seat in that the pin is extending in the longitudinal axis of the seat around which axis said relatively soft saddle support can oscillate.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as to enable oscillations of a seat around its longitudinal axis.

None of the available prior art, where this problem could occur, shows or suggests a pin, that extends in the longitudinal axis of the seat and around which axis the saddle support can oscillate as defined in the characterizing part of claim 1.

Claims 2-18 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

The industrial applicability of such a device is obvious.

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DT15 Rec'd PCT/PTO 14 JAN 2005

- 1 -

TITLE

SEAT FOR A TWO-WHEELED VEHICLE

DESCRIPTIONField of the Invention

The present invention relates to a seat for two-wheeled vehicles, bicycles, motorcycles and scooters for example, capable of oscillating around its longitudinal axis.

Background of the Invention

It is well known that when a cyclist pushes on the pedal, the upper internal part of his thigh rubs against the parts of the seat with which it is in contact and that this causes rubefaction and discomfort. Furthermore, the seat's rigid response to the movements carried out during the pedalling contributes in a not negligible manner to the feeling of discomfort typically associated with remaining for a long time on the seat of a bicycle and, after all, to the strain felt by the cyclist.

The document EP 0 093 016 discloses a seat for a bicycle according to the preamble of claim 1.

Object and summary of the Invention

The general purpose of the present invention is to provide a seat for two-wheeled vehicles that will make it possible to avoid the drawbacks that have just been outlined.

A particular aim of the present invention is to provide a seat of the aforementioned type that will be capable of oscillating about its longitudinal axis and such that said oscillation can be locked.

Another aim of the present invention is to provide a seat of the aforementioned type in which the amplitude of the oscillation about its longitudinal axis can be adjusted.

CLAIMS

1. A seat for two-wheeled vehicles, such as bicycles, motorcycles and scooters, comprising a relatively soft saddle support (1) to bear the rider and a supporting structure (2, 3, 4 and 5) by means of which said support is connected to the seat-carrying upright (11) of the vehicle, whereby between said supporting structure (2, 3, 4, 5) and said upright (11) there is provided an oscillatable pin (10) and means suitable for preventing the oscillation of said pin (10) being provided between said pin (10) and said supporting structure (2, 3, 4, 5) characterized in that said pin (10) is extending in the longitudinal axis of the seat around which axis said relatively soft saddle support (1) can oscillate.
2. A seat in accordance with claim 1, comprising also means for adjusting the amplitude of the oscillation around the axis of said pin.
3. A seat in accordance with claim 1 or claim 2, wherein said pin (10) is rigidly connected to said upright (11) and rotably connected to said supporting structure (2 and 3).
4. A seat in accordance with claim 1 or claim 2, wherein said pin (10) is integral with said supporting structure (2, 3) and is connected to said upright (11) in such a manner as to be able to slide and turn.
5. A seat in accordance with claim 4, wherein a tubular guide (31) within which said pin (10) is mounted in such a manner as to be able to slide and turn is integrally connected to said upright (11), means (37, 38, 42, 54, 55, 59) being provided for controlling the sliding of said pin within said tubular guide.
6. A seat in accordance with claim 5, wherein said means for controlling the sliding of said pin within said tubular guide comprise pulling means (37, 38, 42, 54, 55)

- 14 -

that extend between said upright and at least one end of said pin and are connected to a remote actuation device (39).

5 7. A seat in accordance with claim 5, wherein said pin is threaded and said tubular guide is threaded on the inside, manual actuating means (59) being provided at one end of said pin to impart an angular displacement to said pin capable of causing the pin to slide within said guide.

10 8. A seat in accordance with any one of the preceding claims, wherein said means for locking the oscillation comprise an element (15) that slides on the supporting structure (3) and a seating (14a) integral with said pin (10), said sliding element being positioned on said structure in such a way as to be aligned with said seating
15 to become engaged within it to lock the oscillation or to become disengaged therefrom to permit the oscillation.

9. A seat in accordance with any one of Claims 4 to 7, wherein said means for locking the oscillation of the pin also make it possible to regulate the amplitude of the
20 oscillation and comprise at least one sleeve (40) integral with said tubular guide (31) and coaxial with it and at least one sleeve (41) integral with said pin and coaxial with it, the opposed ends of said sleeves being provided with complementary inclined surfaces (40a, 41a) that
25 gradually become engaged with each other and reduce the oscillation possibility as the distance between them becomes smaller until they eventually come to constitute a perfect fit that locks every possibility of one end rotating with respect to the other.

30 10. A seat in accordance with claim 9, wherein a first sleeve (40) with an inclined end (40a) is coaxially fixed to one end of said tubular guide (31) and a second sleeve

- 15 -

(41) with a complementary inclined end (41a) is counterposed to the first and coaxially integral with one end of said pin (10), said pull wire (42) being connected to the other end of said pin and elastic means (43) being
5 interposed between this latter end of said pin and the end of said tubular guide (31) opposite to the one to which said first sleeve (40) is attached.

11. A seat in accordance with Claim 3, wherein said supporting structure has parts (2, 3) integral with said
10 saddle support (1) and parts (25) integral with said upright (11), the part integral with said upright being provided with longitudinal linkage elements (25) rigidly connected to said upright and converging onto two
15 coaxially opposed pins (23, 24) that are rotatably connected to the part of the supporting structure rigidly connected to said relatively soft support.

12. A seat in accordance with any one of Claims 4 to 7, wherein said means for locking the oscillation of the pin also make it possible to regulate the amplitude of the
20 oscillation and comprise two sleeves (50, 51) with inclined ends (50a, 51a) coaxially fixed to the two ends of said tubular guide (31) two corresponding sleeves (52, 53) with complementary inclined ends (52a, 53a) being coaxially
25 fixed to the ends of said pin (10), there being provided a remote manually actuated tension cable (54, 55) and has its ends connected to the ends of said pin, said tension cable being slidably supported said upright, so that
30 pulling said tension cable in one direction or the other will cause said pin to slide relatively forward or backward until it reaches the two limit positions of complete forward displacement or complete rearward displacement of the seat in which the respective pairs of

- 16 -

the inclined ends of said sleeves constitute perfect fits, thus preventing any relative rotation, whereas in the intermediate position relative rotation is possible with an increasing amplitude that depends on the distance
5 between said inclined ends of said sleeves.

13. A seat in accordance with claim 12, wherein from said pin (10) there extends a tooth (57) that projects within a longitudinal slot provided on said tubular guide (31) capable of becoming engaged with a vault delimited by an
10 arcuate portion (30a) bridging said tubular guide to prevent the rotation of said pin in an intermediate position between said extreme forward position of the seat and its extreme rearward position.

14. A seat in accordance with claim 1, wherein said pin
15 (10) is slidingly and rotatably engaged in a longitudinal groove (62) integral with said supporting structure (2), there being provided, integral with said structure (2), pulling means (63, 64) for controlling the sliding in both directions and means (65) for locking the oscillation.

20 15. A seat in accordance with claim 14, wherein said means for controlling the oscillation comprise a radial rib (66) arranged between two walls (68, 71, 72) situated at a gradually variable distance from each other.

16. A seat in accordance with claim 15, wherein said walls
25 situated at a gradually variable distance from each other consist of a flared groove (67) of a substantially triangular section provided in a small block (68) that can slide with respect to said pin, said rib (66) being engaged in said groove.

30 17. A seat in accordance with claim 15, wherein said walls situated at a gradually variable distance from each other consist of the ends of two setting screws (72, 73) axially

- 17 -

facing to each other and screwed into walls integral with said structure (2).

18. A seat in accordance with Claim 14, wherein said means for controlling the oscillation comprise a longitudinal groove (73) provided on said pin (10) and a prismatic tooth (74) of a substantially triangular section that can gradually become engaged within said groove (73).